5.10 Resource Commitments

Various energy and material resources would be committed in the implementation of any of the alternatives. Estimates of major resources committed are summarized by alternative in Table 5.25. Alternative Groups D_1, D_2, and D_3 are referred to collectively as Alternative Group D (and similarly for Alternative Groups E_1, E_2, and E_3). The resource commitments for Alternative Group D and Alternative Group E are considered collectively because the activities under each are essentially the same—only the locations of the activities change. The location changes do not significantly alter the resource commitments.

The ILAW resources are broken out separately at the bottom of Table 5.25 because the resource requirements to handle this one waste category can be much greater than those of the other categories. Resource estimates for management of melters are included with other HSW waste streams. The ILAW vault resource commitments would be added to the No Action Alternative values; the ILAW multiple trench commitments would be added to Alternative Group B values; and the ILAW single trench commitments would be added to Alternative Groups A, C, D, and E values. Resource commitments of the alternative groups with the appropriate ILAW actions included are presented in Table 5.26.

Resource requirements for a number of materials are larger for Alternative Group B than for Alternative Groups A, C, D, and E because of the less efficient trench design. Some activities under the No Action Alternative require more resources than the action alternatives. Under the No Action Alternative, ILAW is disposed of in vaults, which increases the diesel, borrow (gravel, sand, basalt), steel, concrete, and water needs. In addition, 66 CWC waste storage buildings would be constructed, which increases the steel and concrete needs compared to those for the other alternative groups.

When considering the resource commitments by inventory volume within an alternative group, the Hanford Only volume generally requires the least resources; the Upper Bound volume requires the most. In many cases, the Hanford Only and Lower Bound volume resource commitments are not significantly different.

The resource commitments presented in Table 5.25 for actions excluding ILAW would not be expected to impact available supplies or activities requiring these same resources. The peak electrical power required for construction of operations associated with management of HSW for any of the alternative groups would not be expected to impact Hanford's existing capacity. The commitment of resources for ILAW actions would not cause any impacts beyond those described in the Hanford Comprehensive Land-Use Plan EIS (DOE 1999) and the Hanford Waste Management Operations EIS (ERDA 1975).

Table 5.25. Resource Commitment Summary by Alternative Group and for ILAW[a]

Units	Total Electric	Diesel	Gasoline	Propane	Asphalt[b]	Gravel/ Sand	Silt/Loam	Basalt	Bentonite Clay	Steel	Concrete	Total Water	Lead	Land
	GWhr	m^3	m^3	t	1000 m^3	1000 m^3	1000 m^3	1000 m^3	t	t	1000 m^3	1000 m^3	t	ha
Alternative Group A (without ILAW)														
Hanford Only	735	12,800	260	12,700	362	443	738	443	13,900	720	8.0	488	45	143
Lower Bound	735	12,800	260	12,700	364	446	743	446	13,900	870	9.6	488	45	144
Upper Bound	743	13,600	270	19,300	386	472	786	472	18,200	1280	14	492	45	152
Alternative Group B (without ILAW)														
Hanford Only	5860	16,500	340	23,500	408	490	816	490	33,600	800	9.9	484	45	161
Lower Bound	5860	16,500	340	23,500	414	497	829	497	33,600	950	12	485	45	163
Upper Bound	587	20,500	430	38,300	468	561	935	561	57,600	1380	16	487	45	184
Alternative Group C (without ILAW)														
Hanford Only	735	12,800	260	12,700	362	443	738	443	13,900	720	8.0	488	45	143
Lower Bound	735	12,800	260	12,700	364	446	743	446	13,900	870	9.6	488	45	144
Upper Bound	743	13,600	270	19,300	386	472	786	472	18,200	1280	14	492	45	152
Alternative Group D (without ILAW)														
Hanford Only	735	12,800	260	18,800	361	441	736	441	13,900	710	8.0	488	45	142
Lower Bound	735	12,800	260	20,300	361	441	736	441	13,900	870	9.9	488	45	142
Upper Bound	743	13,600	270	27,800	373	457	761	457	18,200	1280	14	492	45	147
Alternative Group E (without ILAW)														
Hanford Only	735	12,800	260	18,800	361	441	736	441	13,900	710	8.0	488	45	142
Lower Bound	735	12,800	260	20,300	361	441	736	441	13,900	870	9.9	488	45	142
Upper Bound	743	13,600	270	27,800	373	457	761	457	18,200	1280	14	492	45	147
No Action Alternative (without ILAW)														
Hanford Only	685	5,200	48	3,560	15.2	10	30	8.1	0	25,900	140	29.6	45	148
Lower Bound	685	5,300	50	3,560	15.2	10	30	8.1	0	26,000	142	29.6	45	149
ILAW														
Vault	N/A	183,400	N/A	0	20	2603[c]	--	--	--	33,170	282	487	0	10
Multiple trench	N/A	120,100	N/A	0	33	770[c]	--	--	--	1,000	0.31	789	0	26
Single trench	N/A	53,100	N/A	0	10	550[c]	--	--	--	1,000	0	308	0	8

(a) Conversion factors: 1 m^3 ≈ 260 gal; 1 m^3 ≈ 1.3 yd^3; and 1 t (metric ton) ≈ 1.1 ton.
(b) A fully prepared product including its components.
(c) Total fill (sand, gravel, silt, and rip rap).

Table 5.26. Resource Commitment Summary by Alternative Group with ILAW Resources Included[(a)]

Units	Diesel	Asphalt	Gravel/Sand, Silt/Loam, Basalt	Steel	Concrete	Total Water
	m^3	1000 m^3	1000 m^3	t	1000 m^3	1000 m^3
Alternative Group A						
Hanford Only	132,900	392	2394	1720	8.3	1280
Lower Bound	132,900	394	2405	1870	9.9	1280
Upper Bound	133,700	416	2500	2280	14	1280
Alternative Group B						
Hanford Only	136,600	438	2552	1800	10	1270
Lower Bound	136,700	444	2593	1950	12	1270
Upper Bound	140,600	498	2827	2380	16	1280
Alternative Group C						
Hanford Only	65,900	372	2174	1720	8.0	798
Lower Bound	65,900	374	2185	1870	9.6	798
Upper Bound	66,700	396	2280	2280	14	802
Alternative Group D						
Hanford Only	65,900	371	2174	1710	8.0	798
Lower Bound	65,900	371	2204	1870	9.9	798
Upper Bound	66,700	383	2331	2280	14	802
Alternative Group E						
Hanford Only	65,900	371	2174	1710	8.0	798
Lower Bound	65,900	371	2185	1870	9.9	798
Upper Bound	66,700	383	2280	2280	14	802
No Action Alternative						
Hanford Only	188,600	35.2	2648	59,100	420	520
Lower Bound	188,700	35.2	2648	59,200	422	520

(a) Conversion factors: 1 $m^3 \approx 260$ gal; 1 $m^3 \approx 1.3$ yd^3; and 1 t (metric ton) ≈ 1.1 ton.